

Claims

1. An actuator comprising:
 - a hollow track member having a slit extending in an axial direction thereof;
 - a movable member disposed inside the track member to be movable along the track member; and
 - a drive mechanism for moving the movable member along the axial direction of the track member,wherein the track member has, in a section perpendicular to the axial direction of the track member, a guide portion for guiding movement of the movable member and an extension extending from the guide portion so as to cover the movable member, and a width of the slit of the track member formed between the opposed extensions is narrower than a width of the movable member.
2. The actuator according to claim 1, wherein a single slit is formed in a circumferential direction of the track member in a section perpendicular to the axial direction of the track member.
3. The actuator according to claim 1 or 2, wherein the track member has a substantially circular-arc shape in section.
4. The actuator according to claim 1 or 2, wherein the track member is formed with a rolling member rolling groove extending in the axial direction thereof as the guide portion, the movable member is formed with

a loaded rolling member rolling groove opposing to the rolling member rolling groove formed to the track member, and a number of rolling member are interposed between the rolling member rolling groove of the track member and the loaded rolling member rolling groove of the movable member to be rollable therebetween.

5. The actuator according to claim 1 or 2, wherein the track member is provided with a cover member to be expanded or contracted in the axial direction of the track member so as to entirely cover the track member in the section perpendicular to the axial direction of the track member, and a portion of the movable member projecting over the slit of the track member penetrates the cover member.

6. An actuator comprising:

a hollow track member having a slit extending in an axial direction thereof;

a movable member disposed inside the track member to be movable along the track member; and

a drive mechanism for moving the movable member along the axial direction of the track member,

wherein the track member has a substantially circular-arc shape in a section perpendicular to the axial direction of the track member.

7. The actuator according to claim 6, wherein the drive mechanism is provided with a screw portion formed to the movable member and a screw shaft to be screw engaged with the screw portion, the screw shaft

penetrating the movable member, the screw shaft has a center line coincident with a center line of an output shaft of a drive source rotating the screw shaft, and the drive source has an outer substantially circular shape in a section perpendicular to the axial direction of the track member.

8. A motion guide apparatus comprising:

a hollow track member having a slit extending in an axial direction thereof;
and

a movable member disposed inside the track member to be movable along the track member,

wherein the track member has, in a section perpendicular to the axial direction of the track member, a guide portion for guiding movement of the movable member and an extension extending from the guide portion so as to cover the movable member, and a width of the slit of the track member formed between the opposed extensions is narrower than a width of the movable member.